AMENDMENTS TO THE CLAIMS

Claims 1-13 (Canceled)

Claim 14 (Currently Amended) A method of measuring axial elongation of a rotary shaft, comprising:

providing two marks on a rotational surface of a rotary shaft such that the marks are oppositely inclined to one another so as to form a V shape turned relative to an axial direction of the rotary shaft at the same axial position so that a circumferential direction interval between the marks changes according to the axial direction position along the rotary shaft;

providing a sensor opposite to the marks on the rotational surface of the rotary shaft, the sensor being operable to generate pulses when the marks pass the sensor during rotation of the rotary shaft; and

measuring the axial elongation of the rotary shaft from a change in an interval ratio of the pulses generated by the sensor when the marks pass the sensor during rotation of the rotary shaft.

Claim 15 (Previously Presented) The method of claim 14, wherein the marks comprise a reference mark and a measuring mark, and wherein the interval ratio of the pulses is the ratio of the time from detection of the reference mark until detection of the measuring mark to the time it takes for one rotation of the rotary shaft as determined by the sensor.

Claim 16 (Previously Presented) The method of claim 14, wherein the sensor is fixed.

Claim 17 (Canceled)

Claim 18 (Previously Presented) A rotary shaft axial elongation measuring device, comprising:

two marks provided on a rotational surface of a rotary shaft, wherein said marks are oppositely inclined to one another relative to an axial direction of the rotary shaft such that a

circumferential direction interval between the marks change according to the axial direction position along the rotary shaft;

a sensor positioned opposite to the marks on the rotational surface of said rotary shaft, said sensor being operable to generate pulses when said marks pass said sensor during rotation of the rotary shaft; and

a data processing part operable to determine axial elongation of the rotary shaft from a change in an interval ratio of the pulses generated by said sensor when said marks pass sensor during rotation of the rotary shaft.

Claim 19 (Previously Presented) The rotary shaft axial elongation measuring device of claim 18, wherein said plurality of marks comprises a reference mark and a measuring mark.

Claim 20 (Previously Presented) The rotary shaft axial elongation measuring device of claim 19, wherein said reference mark and said measuring mark comprise two grooves in the rotational surface provided so as to form a V shape.

Claim 21 (Previously Presented) The rotary shaft axial elongation measuring device of claim 20, wherein said sensor is any one of a capacitance type gap sensor, an eddy current gap sensor and a photoelectric sensor.

Claim 22 (Previously Presented) The rotary shaft axial elongation measuring device of claim 19, wherein said reference mark and said measuring mark comprise two wire members fitted on the rotational surface of the rotary shaft in a V shape.

Claim 23 (Previously Presented) The rotary shaft axial elongation measuring device of claim 22, wherein said sensor is any one of a capacitance type gap sensor, an eddy current gap sensor and a photoelectric sensor.

Claim 24 (Previously Presented) The rotary shaft axial elongation measuring device of claim 19, wherein said sensor is any one of a capacitance type gap sensor, an eddy current gap sensor and a photoelectric sensor.

Claims 25-28 (Canceled)

Claim 29 (Previously Presented) The rotary shaft axial elongation measuring device of claim 18, wherein said sensor is any one of a capacitance type gap sensor, an eddy current gap sensor and a photoelectric sensor.

Claim 30 (Previously Presented) The rotary shaft axial elongation measuring device of claim 18, wherein said plurality of marks comprises a reference mark and a measuring mark, and wherein the interval ratio of the pulses is the ratio of the time from detection of the reference mark until detection of the measuring mark to the time it takes for one rotation of the rotary shaft as determined by said sensor.

Claim 31 (Previously Presented) The rotary shaft axial elongation measuring device of claim 18, wherein said sensor is fixed.

Claim 32 (Canceled)